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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/496,656	02/03/2000	Yoshimasa Saitoh	P99.2475	6539

26263 7590 11/05/2002

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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

9

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/496,656

Applicant(s)

SAITOH ET AL.

Examiner

Sow-Fun Hon

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1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

***Rejections Withdrawn***

1. The 35 U.S.C. 112,2<sup>nd</sup> paragraph rejections in Paper # 7 (mailed 03/07/02) have been withdrawn due to Applicant's amendment in Paper # 8 (filed 08/13/02).

***Rejections Repeated***

2. The 35 U.S.C. 102(e) rejection of claims 8, 10, 12-13 as being anticipated by Gibbons et al. ('405) has been repeated for the same reasons previously of record in Paper # 7 (mailed 03/07/02).

***New Rejections***

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbons et al. (US 5,731,405) in view of Gibbons et al. (US 6,307,609).

Gibbons et al. ('405) has optical alignment layers exposed to polarized light to induce alignment of liquid crystals (column 15, lines 55-68) whereby the two-step process comprises exposing the alignment layer to a first direction of linear polarization of the incident light, and

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then exposing the layer to polarized light of a second direction of linear polarization of the incident light, at an oblique incidence (column 17, lines 1-15). The energy density may be changed at the second step, and the most preferred exposure energy ranges from 0.001 to 5 J/cm<sup>2</sup> (column 16, lines 25-60). Gibbons et al. teaches two transparent glass substrates with optical alignment films (column 20, lines 25-68) which are exposed to the polarized UV light and then filled with the liquid crystal inbetween (column 21, lines 1-10). Figure 3 shows that each substrate is aligned parallel to a reference plane and the embodiment shows the angle of incident light being at 90 degrees (right angles) to the reference plane. An ultraviolet non-electrode discharge-type lamp is taught as a light source (column 24, lines 30-40).

Gibbons et al. ('405), however, fails to teach that the substrates are specifically rotated to the claimed specific angles before the second exposure of UV radiation, and the relative ratio of exposing energies between the first and second exposures.

Gibbons et al. ('609) teaches a liquid crystal display (column 1, lines 15-45) with substrates containing a UV-reactive (photosensitive) alignment layers, wherein the substrates are first exposed to first polarized light. The substrates are then rotated 90 degrees about the normal to the plane of reference (of the substrates) with a mechanical stage. The substrates are then exposed to a second polarized light. The relative ratio of exposing energies is 4:1 between the first and second exposures. The pair of substrates are then assembled into a cell which is filled with liquid crystal to form a liquid crystal layer (column 11, lines 55-68 and column 12, lines 1-40). Gibbons et al. teaches that the angle is greater than 0 degrees but less than 360 degrees of relative rotation about the reference plane (normal to surface of the optical alignment layer) between the two exposures (column 10, lines 10-20). Gibbons et al. ('609) thus teaches that

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rotating the substrates about the reference plane between exposures to polarized light is well known in the art at the time the invention was made.

Because Gibbons et al. ('609) teaches that it is well known in the art to rotate the substrates about the reference plane between exposures, it would have been obvious to one of ordinary skill in the art to have rotated the substrates in lieu of changing the direction of the polarized light beam (incident) in the invention of Gibbons et al. ('405) in order to obtain a liquid crystal display with the desired liquid crystal alignment properties produced via an alternate method.

#### ***Response to Arguments***

5. Applicant's arguments filed 03/07/02 have been fully considered but they are not persuasive.

6. Applicant argues that Gibbons et al. ('405) fails to disclose rotating a substrate on a reference plane, and therefore does not anticipate the product.

Applicant is respectfully reminded that even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). In the instant case, in the absence of comparative data, the examiner has taken the position that rotating the substrate instead of rotating the radiation source

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produces the same results since the coordinates of the substrate relative to the coordinates of the radiation source remain the same in each case.

7. Applicant argues that Gibbons et al. ('405) does not have a liquid crystal layer with a stable pretilt angle due to the lack of rotating the substrates between radiation exposures.


Applicant is respectfully requested to demonstrate the statement with a showing of fact using clear relevant comparative data.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

874  
10/31/02

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER 11/1/02  
1772